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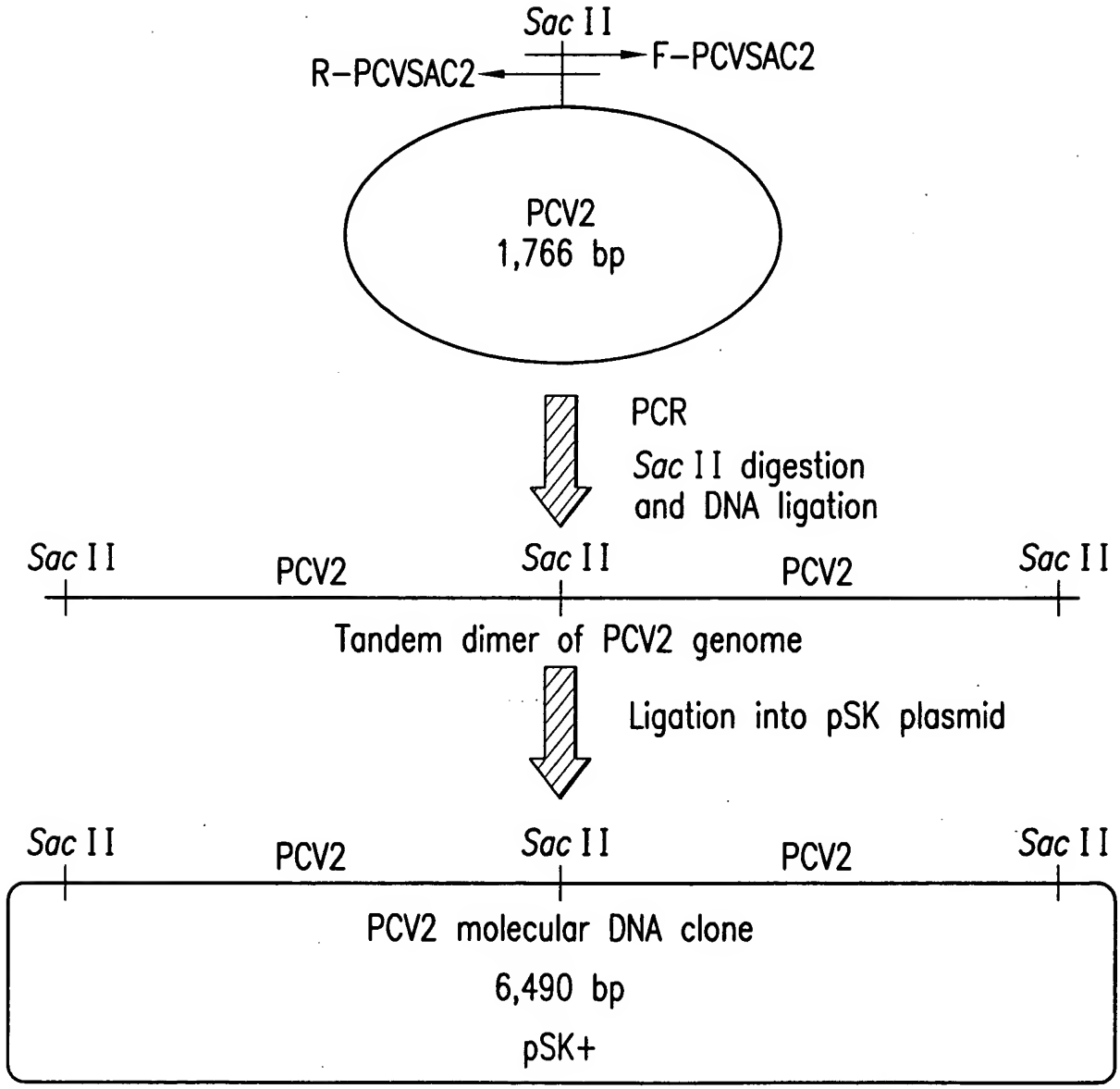

FIG. 1

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FIG.2A

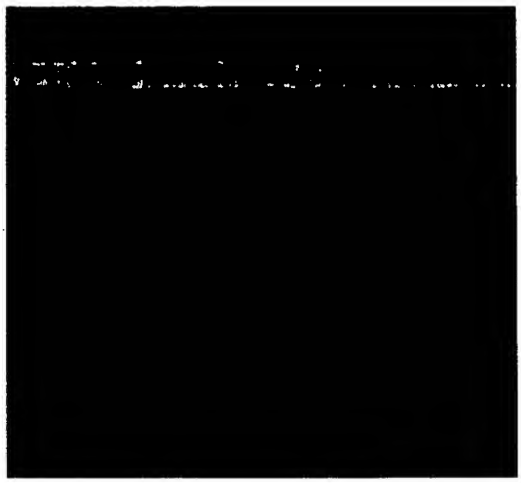

FIG.2B

FIG.3A

FIG.3B

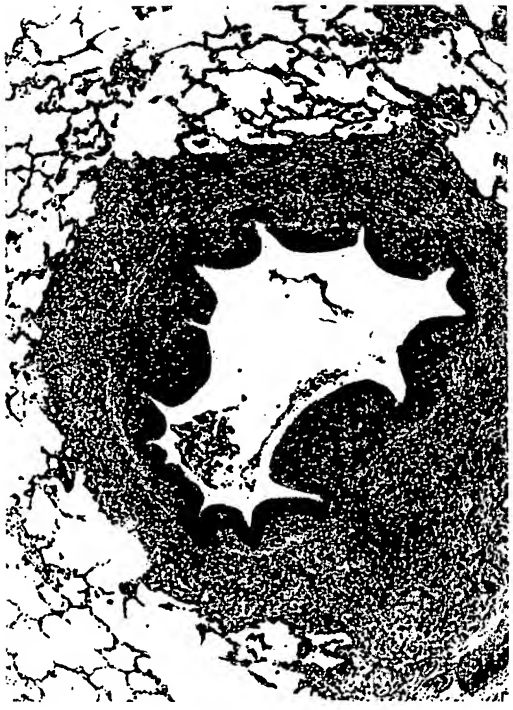

FIG.3C

FIG.3D

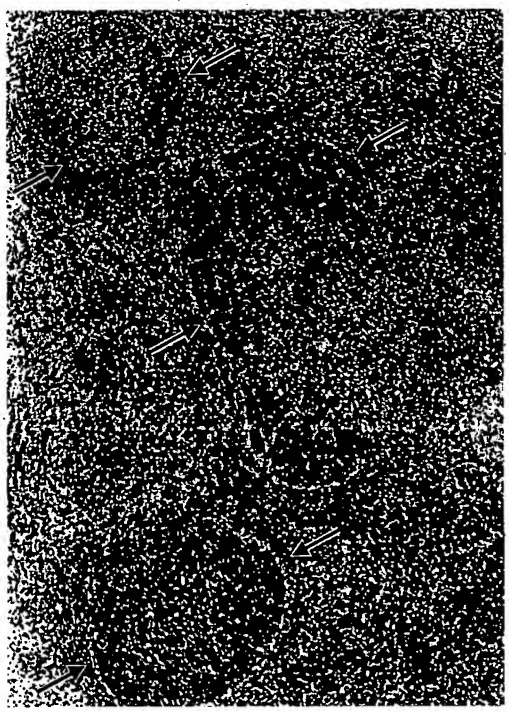

FIG.4A

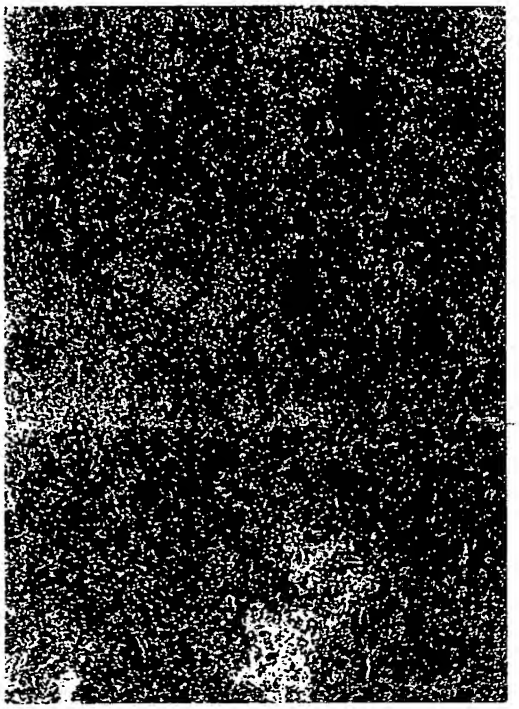

FIG.4B

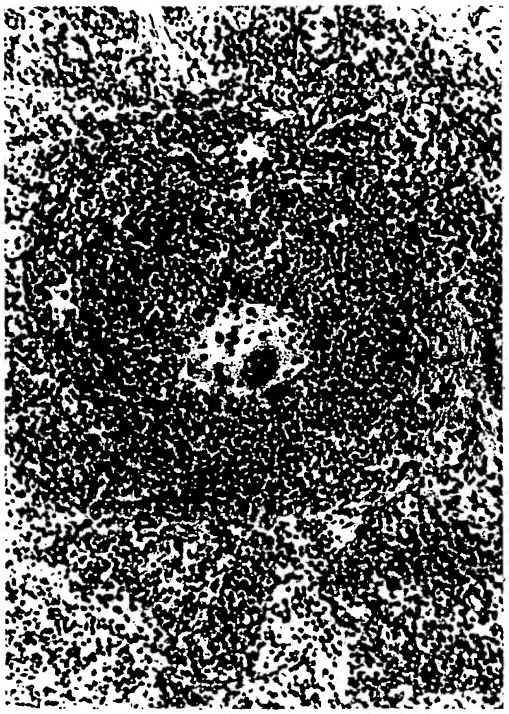

FIG.4C

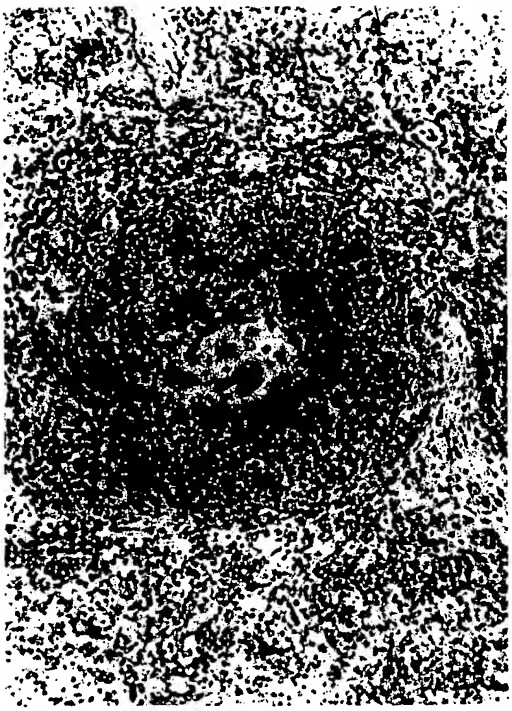

FIG.4D

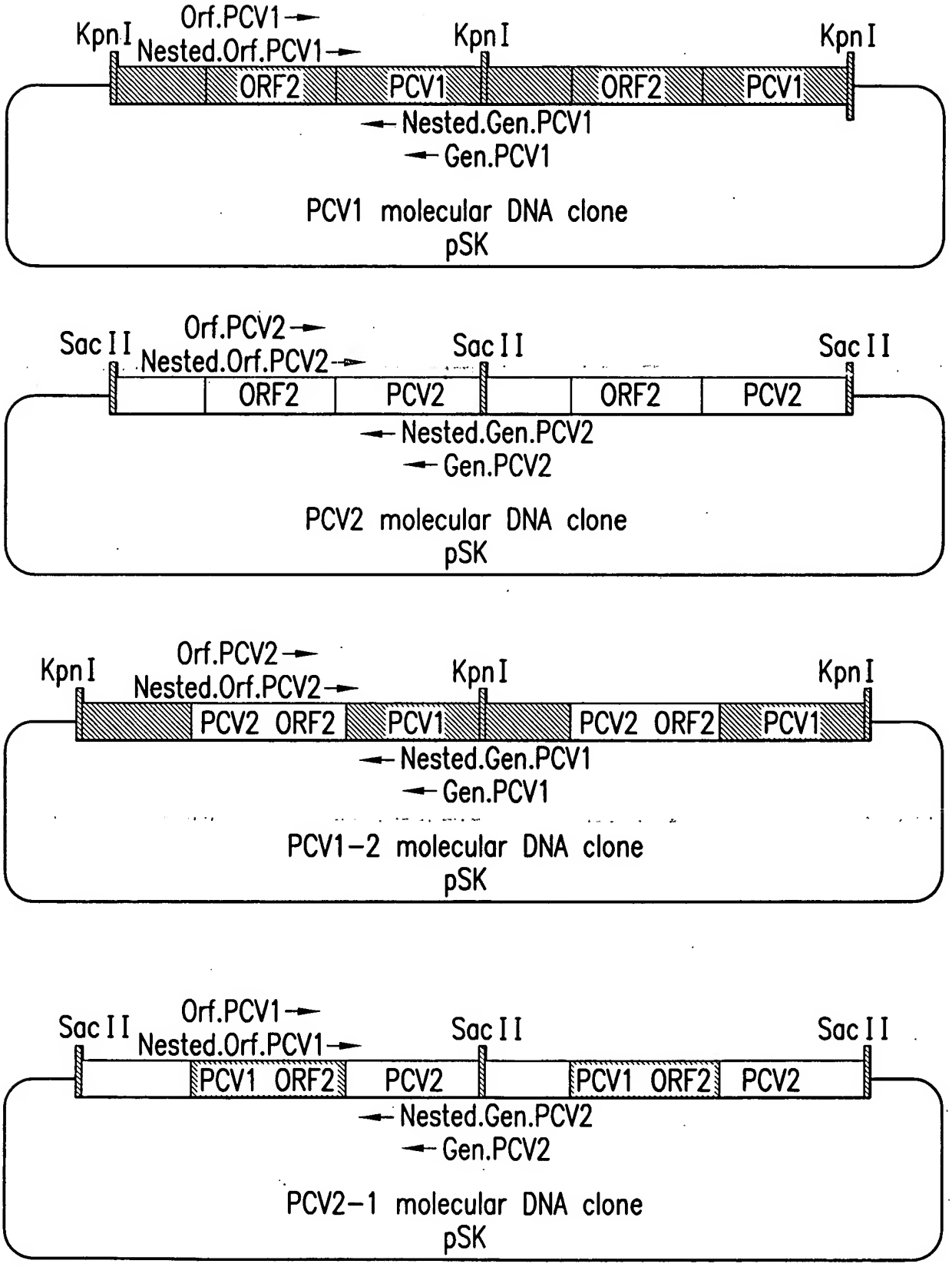
Kpn I
Orf.PCV1
Nested.Orf.PCV1
Kpn I
Kpn I
ORF2
PCV1
ORF2
PCV1
Nested.Gen.PCV1
Gen.PCV1
PCV1 molecular DNA clone
pSK
Sac II
Orf.PCV2
Nested.Orf.PCV2
Sac II
Sac II
ORF2
PCV2
ORF2
PCV2
Nested.Gen.PCV2
Gen.PCV2
PCV2 molecular DNA clone
pSK
Kpn I
Orf.PCV2
Nested.Orf.PCV2
Kpn I
Kpn I
PCV2 ORF2
PCV1
PCV2 ORF2
PCV1
Nested.Gen.PCV1
Gen.PCV1
PCV1-2 molecular DNA clone
pSK
Sac II
Orf.PCV1
Nested.Orf.PCV1
Sac II
Sac II
PCV1 ORF2
PCV2
PCV1 ORF2
PCV2
Nested.Gen.PCV2
Gen.PCV2
PCV2-1 molecular DNA clone
pSK

FIG.6

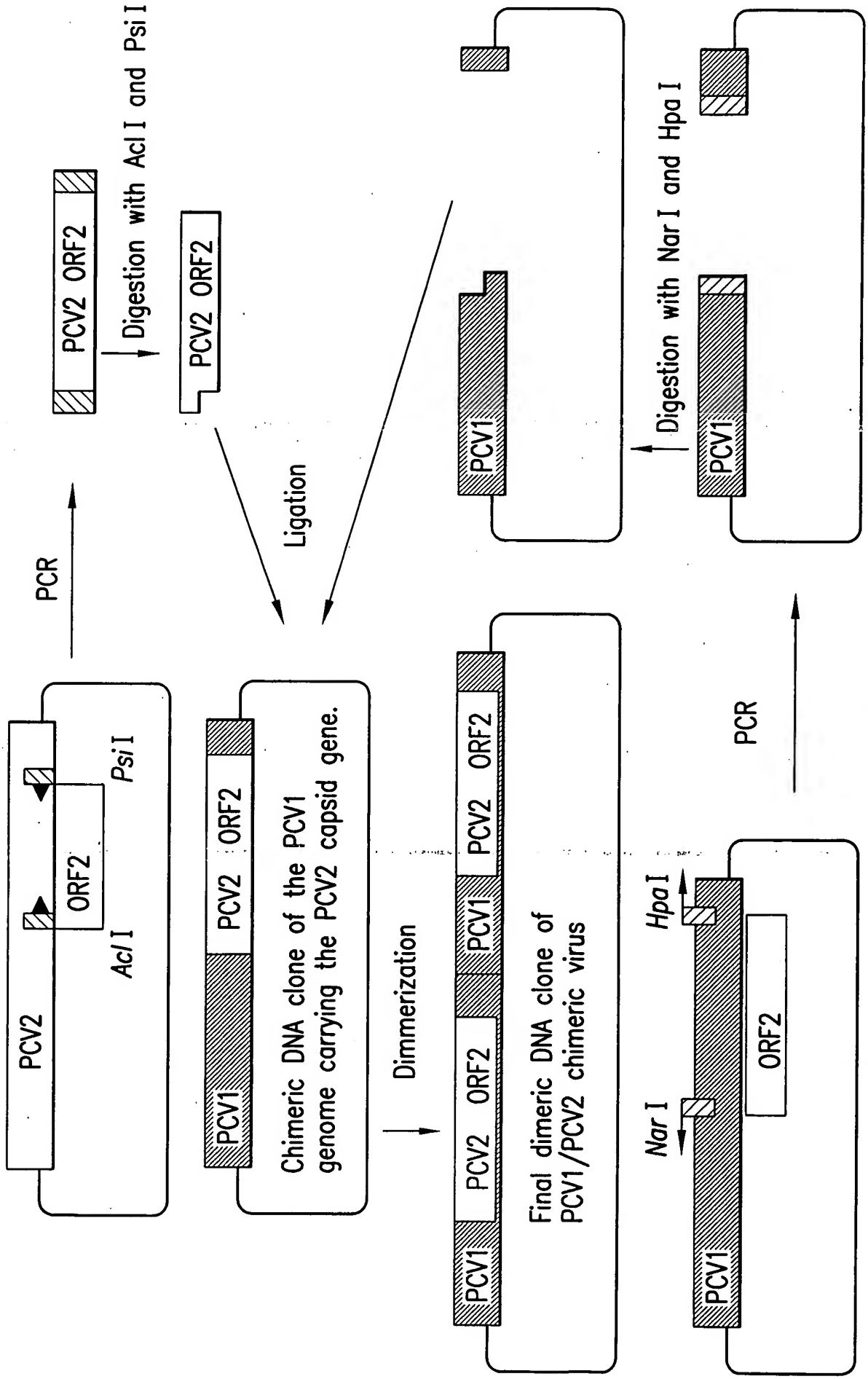
PCV2
ORF2
Acl I
Psi I
PCR
PCV2 ORF2
Digestion with Acl I and Psi I
PCV2 ORF2
PCV1
Chimeric DNA clone of the PCV1 genome carrying the PCV2 capsid gene.
Ligation
Dimmerization
PCV2 ORF2
PCV1
PCV2 ORF2
PCV1
Final dimeric DNA clone of PCV1/PCV2 chimeric virus
PCV1
Digestion with Nar I and Hpa I
PCV1
PCR
Hpa I
Nar I
ORF2
PCV1

FIG.5

IFA WITH
ANTI-PCV1 ORF2

FIG.7A

IFA WITH
ANTI-PCV2

FIG.7B

IFA WITH
ANTI-PCV1 ORF2

FIG.7C

IFA WITH
ANTI-PCV2

FIG.7D

IFA WITH
ANTI-PCV1 ORF2

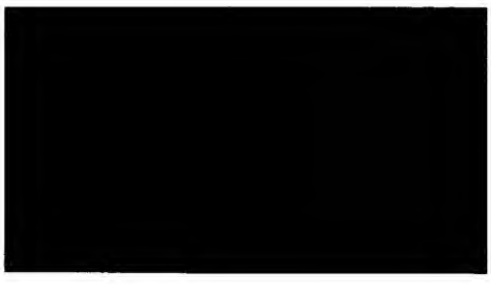

FIG.7E

IFA WITH
ANTI-PCV2

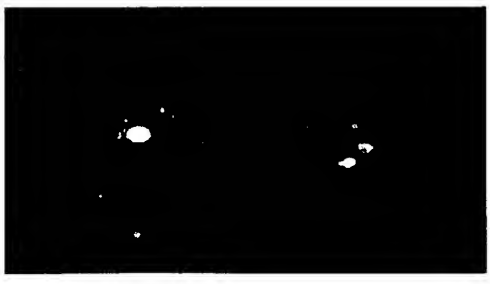

FIG.7F

IFA WITH
ANTI-PCV1 ORF2

FIG.7G

IFA WITH
ANTI-PCV2

FIG.7H

IFA WITH
ANTI-PCV1 ORF2

FIG.7I

IFA WITH
ANTI-PCV2

FIG.7J

AAATTTCTGACAAACGTTACAGGGTGCTGCTCTGCAACGGTCACCAGACTCCCGCTCTCC
AACAAGGTACTCACAGCAGTAGACAGGTCACTCCGTTGTCCTTGAGATCGAGGAGCTCCA
CATTCAATAAGTAAGTTGCCTTCTTTACTGCAATATTCTTTATTCTGCTGATCAGTTCCT
TTGGCTTTCTCGATATGGCAGCGGGCACCCAAATACCACTTCACTTTATTAAAAGTTTGC
TTCTTCACAAAATTAGCGAACCCCTGGAGGTGAGGTGTTCGTCCTTCCTCATTACCCTCC
TCGCCAACAATAAAATAATCAAATAGGGAGATTGGGAGCTCCCGTATTTTCTTGCGCTCG
TCTTCGGAAGGATTATTCAGCGTGAACACCCACCTTTTATGTGGTTGGGGTCCGCTTCTT
CCATTCTTCTTGCTGGGCATGTTGCTGCTGAGGTGCTGCCGAGGTGCTGCCGCTGCCGAA
GTGCGCTGGTAATACTTACAGCGCACTTCTTTCGTTTTCAGCTATGACGTATCCAAGGAG
GCGTTACCGCAGAAGAAGACACCGCCCCCGCAGCCATCTTGGCCAGATCCTCCGCCGCCG
CCCCTGGCTCGTCCACCCCCGCCACCGCTACCGTTGGAGAAGGAAAAATGGCATCTTCAA
CACCCGCCTCTCCCGCACCTTCGGATATACTGTCAAGGCTACCACAGTCAGAACGCCCTC
CTGGGCGGTGGACATGATGAGATTTAATATTGACGACTTTGTTCCCCCGGGAGGGGGGAC
CAACAAAATCTCTATACCCTTTGAATACTACAGAATAAGAAAGGTTAAGGTTGAATTCTG
GCCCTGCTCCCCCATCACCCAGGGTGATAGGGGAGTGGGCTCCACTGCTGTTATTCTAGA
TGATAACTTTGTAACAAAGGCCACAGCCCTAACCTATGACCCATATGTAAACTACTCCTC
CCGCCATACAATCCCCCCAACCCTTCTCCTACCACTCCCGTTACTTCACACCCAAACCTGT
TCTTGACTCCACCATTGATTACTTCCAACCAAATAACAAAAGGAATCAGCTTTGGATGAG
GCTACAAACCTCTAGAAATGTGGACCACGTAGGCCTCGGCACTGCGTTCGAAAACAGTAT
ATACGACCAGGACTACAATATCCGTGTAACCATGTATGTACAATTCAGAGAATTTAATCT
TAAAGACCCCCCACTTAAACCCTAAATGAATAATAAAAACCATTACGAAGTGATAAAAAA
GACTCAGTAATTTATTTCATATGGAAATTCAGGGCATGGGGGGGAAAGGGTGACGAACTG
GCCCCCTTCCTCCGTGGATTGTTCTGTAGCATTCTTCCAAAATACCAAGAAAGTAATCCT
CCGATAGAGAGCTTCTACAGCTGGGACAGCAGTTGAGGAGTACCATTCCAACGGGGTCTG
ATTGCTGGTAATCAGAATACTGCGGGCCAAAAAAGGTACAGTTCCACCTTTAGTCTCTAC
AGTCAATGGATATCGATCACACAGTCTCAGTAGATCATCCCACGGCAGCCAGCCATAAAA
GTCATCAATAACAACCACTTCTTCACCATGGTAACCATCCCACCACTTGTTTCTAGGTGG
TTTCCAGTATGTGGTTTCCGGGTCTGCAAAATTAGCAGCCCATTTGCTTTTACCACACCC
AGGTGGCCCCACAATGACGTGTACATTGGTCTTCCAATCACGCTTCTGCATTTTCCCGCT
CACTTTCAAAAGTTCAGCCAGCCCGCGG

FIG.8

GGTACCTCCGTGGATTGTTCTCCAGCAGTCTTCCAAAATTGCAAAGTAGTAATCCTCCGA
TAGAGAGCTTCTACAGCTGGGACAGCAGTTGAGGAGTACCATTCCTGGGGGGCCTGATTG
CTGGTAATCAAAATACTGCGGGCCAAAAAAGGAACAGTACCCCCTTTAGTCTCTACAGTC
AATGGATACCGGTCACACAGTCTCAGTAGATCATCCCAAGGTAACCAGCCATAAAAATCA
TCCAAAACAACAACTTCTTCTCCATGATATCCATCCCACCACTTATTTCTACTAGGCTTC
CAGTAGGTGTCCCTAGGCTCAGCAAAATTACGGGCCCACTGGCTCTTCCCACAACCGGGC
GGGCCCACTATGACGTGTACAGCTGTCTTCCAATCACGCTGCTGCATCTTCCCGCTCACT
TTCAAAAGTTCAGCCAGCCCGCGGAAATTTCTCACATACGTTACAGGAAACTGCTCGGCT
ACAGTCACCAAAGACCCCGTCTCCAAAAGGGTACTCACAGCAGTAGACAGGTCGCTGCGC
TTCCCCTGGTTCCGCGGAGCTCCACACTCGATAAGTATGTGGCCTTCTTTACTGCAGTAT
TCTTTATTCTGCTGGTCGGTTCCTTTCGCTTTCTCGATGTGGCAGCGGGCACCAAAATAC
CACTTCACCTTGTTAAAAGTCTGCTTCTTAGCAAAATTCGCAAACCCCTGGAGGTGAGGA
GTTCTACCCTCTTCCAAACCTTCCTCGCCACAAACAAAATAATCAAAAAGGGAGATTGGA
AGCTCCCGTATTTTGTTTTTCTCCTCCTCGGAAGGATTATTAAGGGTGAACACCCACCTC
TTATGGGGTTGCGGGCCGCTTTTCTTGCTTGGCATTTTCACTGACGCTGCCGAGGTGCTG
CCGCTGCCGAAGTGCGCTGGTAATACTACAGCAGCGCACTTCTTTCACTTTTATAGGATG
ACGTATCCAAGGAGGCGTTACCGCAGAAGAAGACACCGCCCCCGCAGCCATCTTGGCCAG
ATCCTCCGCCGCCGCCCCTGGCTCGTCCACCCCCGCCACCGCTACCGTTGGAGAAGGAAA
AATGGCATCTTCAACACCCGCCTCTCCCGCACCTTCGGATATACTGTCAAGGCTACCACA
GTCAGAACGCCCTCCTGGGCGGTGGACATGATGAGATTTAATATTGACGACTTTGTTCCC
CCGGGAGGGGGGACCAACAAAATCTCTATACCCTTTGAATACTACAGAATAAGAAAGGTT
AAGGTTGAATTCTGGCCCTGCTCCCCCATCACCCAGGGTGATAGGGGAGTGGGCTCCACT
GCTGTTATTCTAGATGATAACTTTGTAACAAAGGCCACAGCCCTAACCTATGACCCATAT
GTAAACTACTCCTCCCGCCATACAATCCCCCAACCCTTCTCCTACCACTCCCGTTACTTC
ACACCCAAACCTGTTCTTGACTCCACCATTGATTACTTCCAACCAAATAACAAAAGGAAT
CAGCTTTGGATGAGGCTACAAACCTCTAGAAATGTGGACCACGTAGGCCTCGGCACTGCG
TTCGAAAACAGTATATACGACCAGGACTACAATATCCGTGTAACCATGTATGTACAATTC
AGAGAATTTAATCTTAAAGACCCCCCACTTAAACCCTAAATGAATAAAAATAAAAACCAT
TACGATGTGATAACAAAAAAGACTCAGTAATTTATTTTATATGGGAAAAGGGCACAGGGT
GGGTCCACTGCTTCAAATCGGCCTTCGGGTACC

FIG.9

ATGACGTATCCAAGGAGGCGTTACCGCAGAAGAAGACACCGCCCCCGCAGCCATCTTGGC
CAGATCCTCCGCCGCCGCCCCTGGCTCGTCCACCCCCGCCACCGCTACCGTTGGAGAAGG
AAAAATGGCATCTTCAACACCCGCCTCTCCCGCACCTTCGGATATACTGTCAAGGCTACC
ACAGTCAGAACGCCCTCCTGGGCGGTGGACATGATGAGATTTAATATTGACGACTTTGTT
CCCCCGGGAGGGGGGACCAACAAAATCTCTATACCCTTTGAATACTACAGAATAAGAAAG
GTTAAGGTTGAATTCTGGCCCTGCTCCCCCATCACCCAGGGTGATAGGGGAGTGGGCTCC
ACTGCTGTTATTCTAGATGATAACTTTGTAACAAAGGCCACAGCCCTAACCTATGACCCA
TATGTAAACTACTCCTCCCGCCATACAATCCCCCAACCCTTCTCCTACCACTCCCGTTAC
TTCACACCCAAACCTGTTCTTGACTCCACCATTGATTACTTCCAACCAAATAACAAAAGG
AATCAGCTTTGGATGAGGCTACAAACCTCTAGAAATGTGGACCACGTAGGCCTCGGCACT
GCGTTCGAAAACAGTATATACGACCAGGACTACAATATCCGTGTAACCATGTATGTACAA
TTCAGAGAATTTAATCTTAAAGACCCCCCACTTAAACCCTAA

FIG.10

MTYPRRRYRRRRHRPRSHLGQILRRRPWLVHPRHRYRWRRKNGIFNTRLSRTFGYTVKAT
TVRTPSWAVDMMRFNIDDFVPPGGGTNKISIPFEYYRIRKVKVEFWPCSPITQGDRGVGS
TAVILDDNFVTKATALTYDPYVNYSSRHTIPQPFSYHSRYFTPKPVLDSTIDYFQPNNKR
NQLWMRLQTSRNVDHVGLGTAFENSIYDQDYNIRVTMYVQFREFNLKDPPLKP*

*translation termination codon

FIG. 11

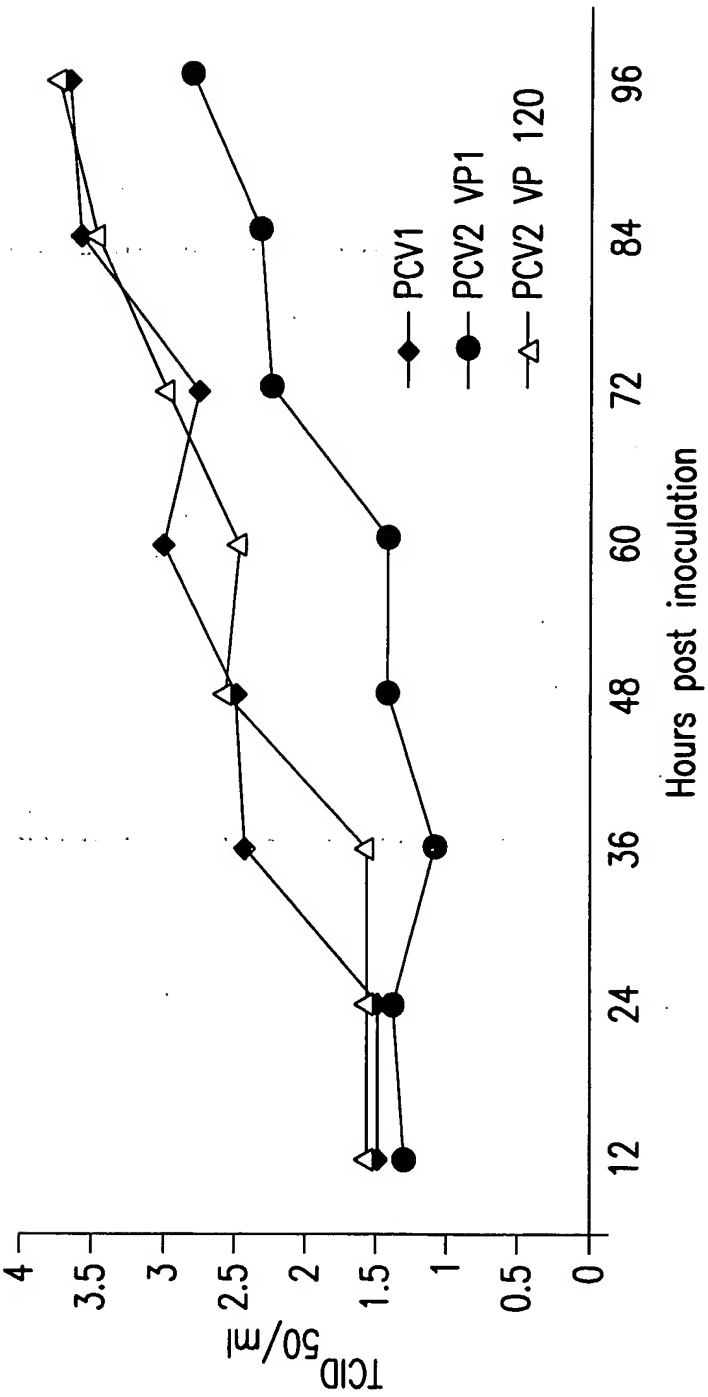
TCID50/ml
4
3.5
3
2.5
2
1.5
1
0.5
0
12
24
36
48
60
72
84
96
Hours post inoculation
PCV1
PCV2 VP1
PCV2 VP 120

FIG. 12

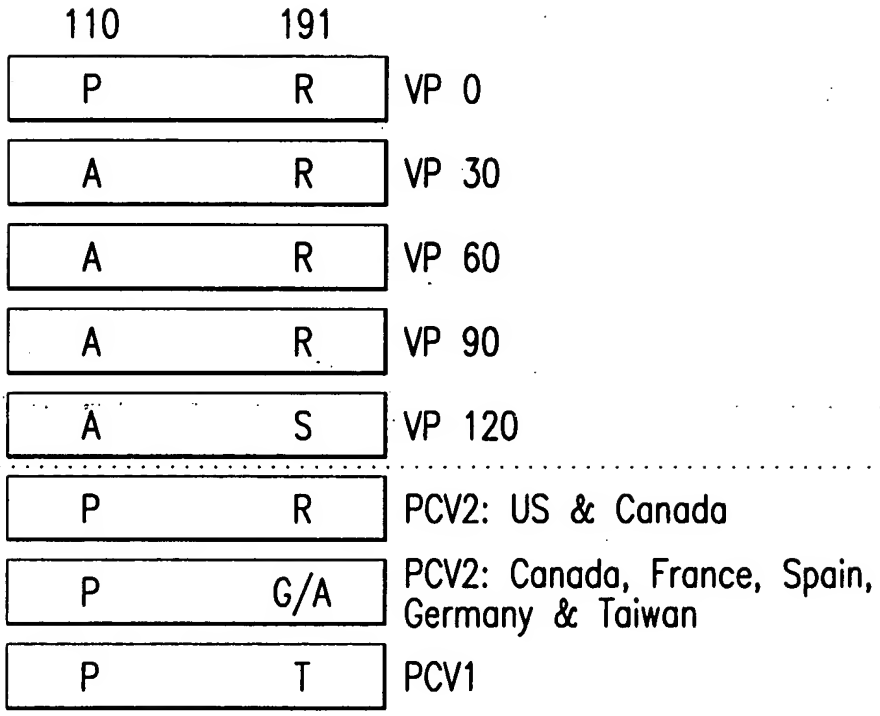
110
191
P
R
VP 0
A
R
VP 30
A
R
VP 60
A
R
VP 90
A
S
VP 120
P
R
PCV2: US & Canada
P
G/A
PCV2: Canada, France, Spain, Germany & Taiwan
P
T
PCV1

FIG.13

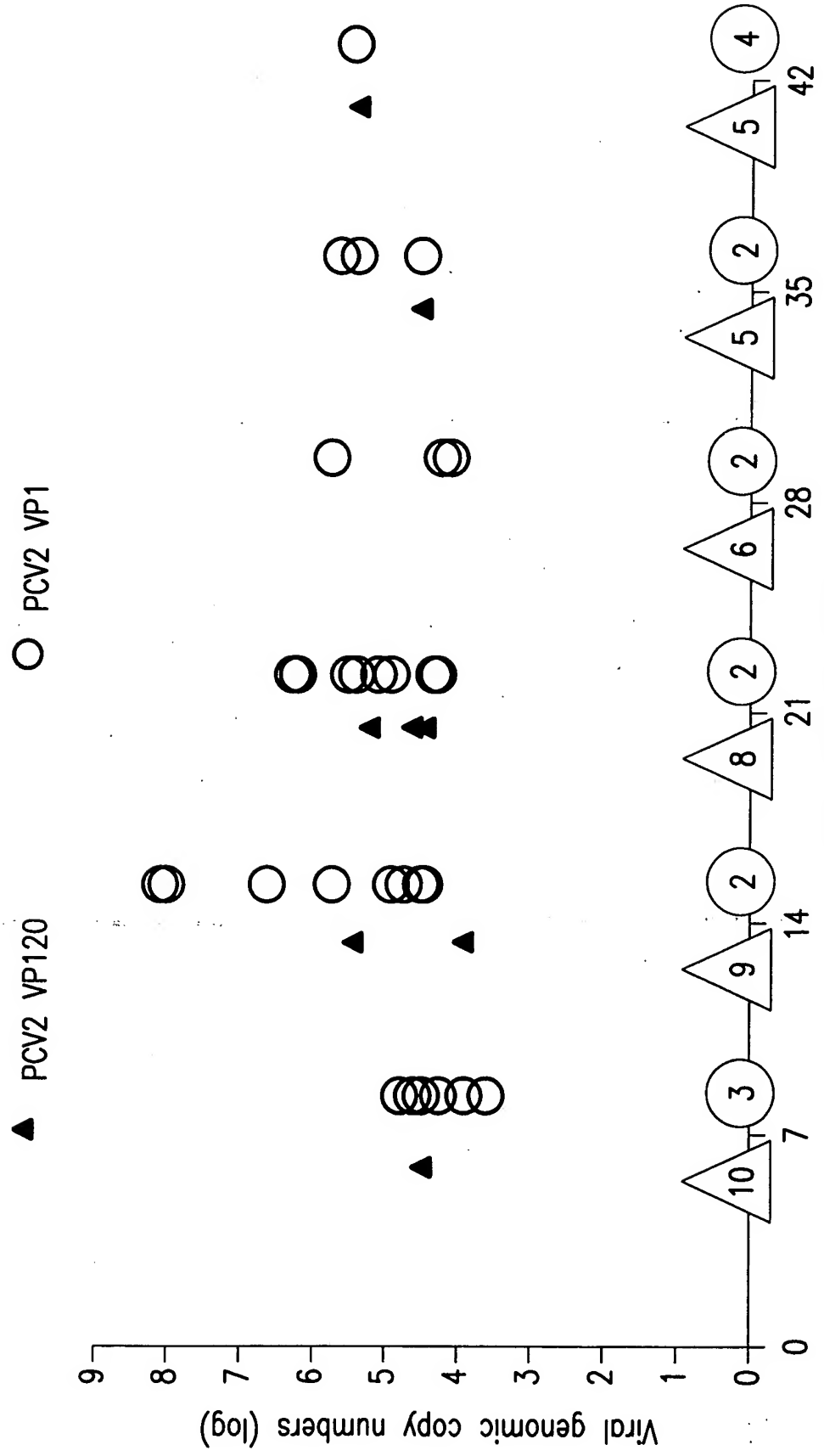
PCV2 VP120
PCV2 VP1
Viral genomic copy numbers (log)
0
1
2
3
4
5
6
7
8
9
Days post inoculation
0
7
14
21
28
35
42
10
3
9
2
8
2
6
2
5
2
4

FIG. 14

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